

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

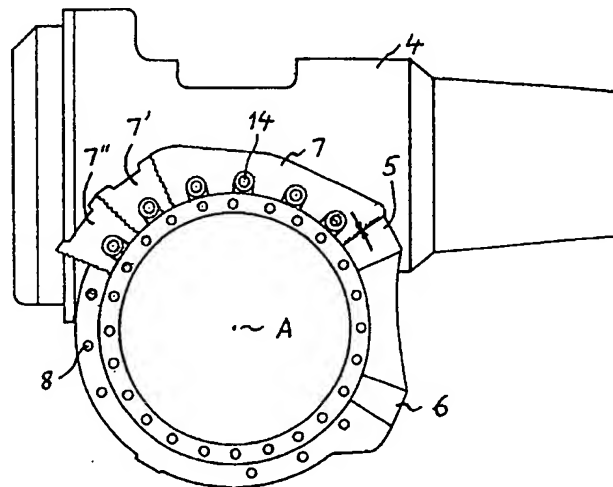
(19) World Intellectual Property  
Organization  
International Bureau(43) International Publication Date  
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
WO 2004/007151 A1

- (51) International Patent Classification<sup>7</sup>: B25J 19/00, 9/10 (81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number:  
PCT/SE2003/001171
- (22) International Filing Date: 4 July 2003 (04.07.2003)
- (25) Filing Language: Swedish
- (26) Publication Language: English
- (30) Priority Data:  
0202176-4 11 July 2002 (11.07.2002) SE
- (71) Applicant (*for all designated States except US*): ABB AB [SE/SE]; Kopparbergsvägen, S-721 83 Västerås (SE).
- (72) Inventors; and  
(75) Inventors/Applicants (*for US only*): HELDESJÖ, Magnus [SE/SE]; Tackjärmsgatan 8, S-72477 Västerås (SE). LUNDBÄCK, Daniel [SE/SE]; Åmänningevägen 48, S-72482 Västerås (SE).
- (74) Agent: ABB AB; Legal & Compliance/Intellectual Property, S-721 78 Västerås (SE).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: A DEVICE FOR AN INDUSTRIAL ROBOT



(57) Abstract: A device for restriction of the working range around an axis (A) of an industrial robot comprising a fixed stop (5, 6) and a set of stop elements (7) as well as means for fixing an optional number of stop elements on one part (4) rotatable around the axis (A) relative to another part (3) in a row one after the other and making contact with one another along a circular arc around the axis of rotation of the first part, in order to hit against the stop with those end surfaces of the stop elements which are located at opposite ends of the row, when rotating the first part relative to the second part, thus forming opposite end positions for this rotation. Means (10, 11) are arranged for such a mutual connection of said row of adjacently arranged stop elements that these elements, with respect to the transmission of forces between them and the stop, when hitting against the latter upon said rotation, essentially behave as if they together constituted one single coherent stop element.